Claims

[c1] 1. A method comprising the steps of:

(a) providing one or more identifiers;

(b) specifying one or more attributes for at least one of the identifiers;

(c) generating a data template including the identifier; and

(d) receiving by the data template a value for the identifier in accordance with the one or more attributes;

wherein the value is related to use of a probe array.

[c2] 2. The method of claim 1, further comprising the step of:

(e) storing the value in a data structure.

[c3] 3. The method of claim 2, wherein:

the data structure is included in a database.

[c4] 4. The method of claim 1, wherein:

the identifiers include experiment identifiers and the data template includes an experiment data template.

[c5] 5. The method of claim 1, wherein:

the identifiers include sample identifiers and the data template includes a sample data template.

[c6] 6. The method of claim 1, wherein:

the data structure includes an experiment information file.

[c7] 7. The method of claim 1, further comprising the step of:

(e) displaying the data template to a first user.

[c8] 8. The method of claim 7, wherein:

the value is provided by the first user responsive to displaying the data template.

[c9] 9. The method of claim 7, wherein:

the value is provided by the first user in accordance with a first type attribute.

[c10] 10. The method of claim 9, wherein:
the first type attribute is a date attribute, time attribute, integer attribute, floating point data attribute, character string attribute, required attribute, or controlled attribute.

[c11] 11. The method of claim 10, wherein:
the value is provided by the first user in accordance with a required attribute.

[c12] 12. The method of claim 11, wherein:
the required attribute specifies that the value is either required or not required to be received.

[c13] 13. The method of claim 10, wherein:
the value is provided by the user in accordance with a controlled attribute.

[c14] 14. The method of claim 13, wherein:
the controlled attribute specifies that the value is to be one or more of a plurality of user-specified values specified by a second user.

[c15] 15. The method of claim 14, wherein:
the first and second users are different users.

[c16] 16. The method of claim 2, further including the step of:
(f) storing instrument information for at least one instrument in the data structure, wherein the instrument is included in an experiment related to the probe array.

[c17] 17. The method of claim 2, further including the step of:
(f) storing image data in the data structure, wherein the image data is based, at least in part, on scanning of the probe array.

[c18] 18. The method of claim 17, further including the steps of:
(g) analyzing the image data to generate results data; and
(h) storing the results data in the data structure.

[c19] 19. The method of claim 18, further including the step of:

(i) tracking the value, the image data, and the result data.

[c20] 20. A method comprising the steps of:
(a) receiving from a first user a selection of a first data template having a plurality of identifiers each having one or more attributes;
(b) displaying the first data template to the first user in response to the selection;
(c) receiving from the first user values for one or more of the identifiers of the first data template in accordance with the attributes of the one or more identifiers; and
(d) saving the values in a data structure;
wherein the values are related to use of a probe array.

[c21] 21. The method of claim 20, wherein:
the selection is made by selecting a name of the first data template from a list of names of a plurality of data templates.

[c22] 22. The method of claim 21, wherein:
the plurality of data templates include one or more default data templates.

[c23] 23. The method of claim 21, wherein:
the list of names is displayed to the first user in a tree structure of a graphical user interface.

[c24] 24. The method of claim 20, wherein:
the data structure includes an experiment information file.

[c25] 25. The method of claim 24, wherein:
the experiment information file is included in a database.

[c26] 26. The method of claim 20, further comprising the step of:
(e) generating the first data template based, at least in part, on a second user specifying the plurality of identifiers.

[c27] 27. The method of claim 26, further comprising the step of:
(f) generating the first data template based, at least in part, on a second user

specifying the attributes of the plurality of identifiers.

[c28] 28. The method of claim 27, wherein:
the first and second users are different users.

[c29] 29. A computer program product, comprising:
(a) a template generator that generates a data template including one or more identifiers, each having one or more attributes;
(b) a value receiver that receives values for the identifiers in accordance with their attributes; and
(c) a data storage manager that stores the values in a data structure;
wherein the values are based on one or more experiments on one or more probe arrays.

[c30] 30. The computer program product of claim 29, wherein:
the identifiers include experiment identifiers and the data template includes an experiment data template.

[c31] 31. The computer program product of claim 29, wherein:
the identifiers include sample identifiers and the data template includes a sample data template.

[c32] 32. The computer program product of claim 29, wherein:
the data structure includes an experiment information file.

[c33] 33. The computer program product of claim 29, wherein:
the template generator generates the data template in response to a first user specifying at least one of the one or more identifiers.

[c34] 34. The computer program product of claim 29, wherein:
the template generator generates the data template in response to a first user specifying at least one attribute of the one or more identifiers.

[c35] 35. The computer program product of claim 33, wherein:
the data template is selected by a second user.

[c36] 36. The computer program product of claim 29 , wherein:
the data storage manager further stores instrument information regarding at least one instrument in the data structure, wherein the instrument is included in the one or more experiment.

[c37] 37. The computer program product of claim 29 , wherein:
the data storage manager further stores image data in the data structure, wherein the image data is based, at least in part, on scanning of the one or more probe arrays.

[c38] 38. The computer program product of claim 29 , further including:
(d) an analysis application that analyzes the image data to generate results data; and
wherein the data storage manager further stores the results data in the data structure.

[c39] 39. A computer implemented system for managing information of probe array experiments, comprising:
a computer-readable storage medium;
a database;
a data template generator coupled to the computer-readable storage medium; and
an experiment manager coupled to the computer-readable storage medium and the database,
wherein the data template generator generates at least one user-defined data template and stores the user-defined data template on the computer-readable storage medium, each user-defined data template defining attributes of a set of experiment identifiers, a data template being selected from the at least one user-defined data template by a user using the experiment manager, experiment identifiers being inputted using the experiment manager according to the selected data template, the inputted experiment identifiers being stored in the database as an experiment information file.

[c40] 40. The system of claim 39 , wherein:
instrument information is included in the experiment information file.

[c41] 41. The system of claim 39 , further comprising:
a data processor, coupled to the database, for acquiring experiment data and storing the experiment data as an experiment data file in the database;
a data analyzer, connected to the database, for analyzing the experiment data, generating analyzed result files, and storing the analyzed result files in the database; and
a file manager for tracking the experiment information file, the experiment data file, and the analyzed result files.

[c42] 42. The system of claim 41 , wherein:
the experiment data file is an image file.

[c43] 43. The system of claim 41 , wherein:
the file manager tracks the experiment information file, the experiment data file, and the analyzed result files according to file names.

[c44] 44. A computer implemented system for managing information of probe array experiments, comprising:
a computer-readable storage medium having at least one default data table stored thereon;
a database;
a data template generator coupled to the computer-readable storage medium; and
an experiment manager coupled to the computer-readable storage medium and the database;
wherein the data template generator generates at least one user-defined data template and stores the user-defined data template on the computer-readable storage medium, each user-defined data template defining the attributes of a set of experiment identifiers, a data template being selected from the group consisting of the default data table and the user-defined data template by a user using the experiment manager, experiment

identifiers being inputted using the experiment manager according to the selected data template, the inputted experiment identifiers being stored in the database as an experiment information file.